

WHAT IS CLAIMED IS:

1. An optical fiber fixing system for fixing an optical fiber comprising:
a fixing body comprising a first groove, formed in a first surface thereof, extending in a first direction to support the optical fiber along its axial direction; and
a pressing body comprising a protrusion, formed on a first surface thereof, and extending substantially perpendicularly to the first groove,
wherein the first surface of the pressing body faces the first surface of the fixing body.
2. The optical fiber fixing system according to claim 1, wherein the first surface of the pressing body and the first surface of the fixing body are substantially planar.
3. The optical fiber fixing system according to claim 1, wherein, when the optical fiber is supported in the first groove, a ridgeline of the optical fiber protrudes out of the first groove above the first surface of the fixing body.
4. The optical fiber fixing system according to claim 1, wherein the cross section of the first groove is V-shaped.
5. The optical fiber fixing system according to claim 1, wherein the cross section of the first groove is trapezoidally-shaped.
6. The optical fiber fixing system according to claim 1, wherein:

the fixing body further comprises a second groove, formed in a second surface thereof, shaped to support the optical fiber;

the second groove extends in the first direction laterally adjacent to the first groove so that both the first and second grooves can axially support the optical fiber simultaneously; and

the second surface of the fixing body is arranged above, and laterally adjacent to, the first surface of the fixing body to form a stepped structure.

7. The optical fiber fixing system according to claim 6, wherein the first surface of the pressing body and the first surface of the fixing body are substantially planar.

8. The optical fiber fixing system according to claim 6, wherein, when the optical fiber is supported in the second groove, the ridgeline of the optical fiber is contained within the second groove below the second surface of the fixing body.

9. The optical fiber fixing system according to claim 6, wherein the first groove is shorter than the second groove when measured in the first direction.

10. The optical fiber fixing system according to claim 6, wherein the cross section of the second groove is V-shaped.

11. The optical fiber fixing system according to claim 6, wherein the cross section of the second groove is trapezoidally-shaped.

12. The optical fiber fixing system according to claim 1, wherein the cross section of the protrusion is semi-cylindrical and the protrusion is formed integrally with the pressing body.

13. The optical fiber fixing system according to claim 12, wherein the integrally formed protrusion and pressing body is formed of a metal material.

14. The optical fiber fixing system according to claim 12, wherein the integrally formed protrusion and pressing body is formed of a ceramic material.

15. The optical fiber fixing system according to claim 1, wherein the cross section of the protrusion is prismatic and the protrusion is formed integrally with the pressing body.

16. The optical fiber fixing system according to claim 15, wherein the integrally formed protrusion and pressing body is formed of a metal material.

17. The optical fiber fixing system according to claim 15, wherein the integrally formed protrusion and pressing body is formed of a ceramic material.

18. The optical fiber fixing system according to claim 1, wherein the protrusion is formed of a material different from that of the pressing body, and is arranged in a protrusion mounting groove formed in the first surface of the pressing body.

19. The optical fiber fixing system according to claim 18, wherein the pressing body is formed of a resin.

20. The optical fiber fixing system according to claim 18, wherein the protrusion is formed of a metal material.

21. The optical fiber fixing system according to claim 18, wherein the protrusion is formed of a ceramic material.

22. The optical fiber fixing system according to claim 18, wherein the cross section of the protrusion is cylindrical.

23. The optical fiber fixing system according to claim 22, wherein the protrusion is formed of a metal material.

24. The optical fiber fixing system according to claim 22, wherein the protrusion is formed of a ceramic material.

25. The optical fiber fixing system according to claim 18, wherein the cross section of the protrusion is prismatic and the protrusion is formed integrally with the pressing body.

26. The optical fiber fixing system according to claim 25, wherein the protrusion is formed of a metal material.

27. The optical fiber fixing system according to claim 25, wherein the protrusion is formed of a ceramic material.

28. The optical fiber fixing system according to claim 6, wherein:
the pressing body further comprises a guide portion extending laterally from the first surface thereof;

the guide portion faces the second surface of the fixing body and is formed of sloped portions configured to interface with the second groove to align the optical fiber therein.

29. The optical fiber fixing system according to claim 1, wherein at least one of the fixing body and pressing body is movable towards the other so that the optical fiber may be fixed therebetween by the protrusion pressing the optical fiber against the first groove.

30. An optical fiber butting system, which is provided with a pair of optical fiber fixing systems as recited in claim 1, for respectively fixing a pair of optical fibers set up at an equal distance from a butting section, for butting the optical fibers fixed to the optical fiber fixing systems.

31. An optical fiber fusion-splicing system, which is provided with a pair of optical fiber fixing systems as recited in claim 1, for respectively fixing a pair of optical fibers set up at an equal distance from a butting section by fusion-splicing the optical fibers fixed to the optical fiber fixing systems.

32. An optical fiber fixing system for fixing an optical fiber comprising:

a fixing body comprising a first groove formed in a first surface thereof, and a second groove formed in a second surface thereof, both extending in a first direction to support the optical fiber along its axial direction; and

a pressing body comprising a planar clamp portion facing the first surface of the fixing body, and a guide portion facing the second surface of the fixing body and comprising two sloped portions configured to interface with the second groove to align the optical fiber therein.

33. The optical fiber fixing system according to claim 32, wherein the second surface of the fixing body is arranged above, and laterally adjacent to, the first surface of the fixing body to form a stepped structure.

34. The optical fiber fixing system according to claim 32, wherein the guide portion further comprises a bottom surface arranged between the two sloped portions.

35. The optical fiber fixing system according to claim 34, wherein, when the fixing body and pressing body are arranged adjacently to fix the optical fiber therebetween, the bottom surface of the guide portion is located above the ridgeline of the optical fiber supported in the second groove.

36. The optical fiber fixing system according to claim 32, wherein, when the optical fiber is supported in the first and second grooves, a ridgeline of the optical fiber protrudes out of the

first groove above the first surface of the fixing body, and is contained within the second groove below the second surface of the fixing body.

37. The optical fiber fixing system according to claim 32, wherein the first surface of the pressing body and the first surface of the fixing body are substantially planar.

38. The optical fiber fixing system according to claim 32, wherein the cross sections of the first and second grooves are V-shaped.

39. The optical fiber fixing system according to claim 32, wherein the cross sections of the first and second grooves are trapezoidally-shaped.

40. The optical fiber fixing system according to claim 32, wherein the first groove is shorter than the second groove when measured in the first direction.

41. The optical fiber fixing system according to claim 32, wherein the pressing body is formed of a metal material.

42. The optical fiber fixing system according to claim 32, wherein the pressing body is formed of a ceramic material.

43. The optical fiber fixing system according to claim 32, wherein at least one of the fixing body and pressing body is movable towards the other so that the optical fiber may be fixed therebetween.

44. An optical fiber butting system, which is provided with a pair of optical fiber fixing systems as recited in claim 32, for respectively fixing a pair of optical fibers set up at an equal distance from a butting section, for butting the optical fibers fixed to the optical fiber fixing systems.

45. An optical fiber fusion-splicing system, which is provided with a pair of optical fiber fixing systems as recited in claim 32, for respectively fixing a pair of optical fibers set up at an equal distance from a butting section by fusion-splicing the optical fibers fixed to the optical fiber fixing systems.